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**STATE OF BRUNEI**

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**ANNUAL REPORT**

**ON THE**

**MEDICAL DEPARTMENT**

**FOR THE YEAR**

**1931**

**BY**

**Dr. E. W. MARTINDELL, M.B., B.S. (London)**

*Medical Officer, Brunei*



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**Singapore :**

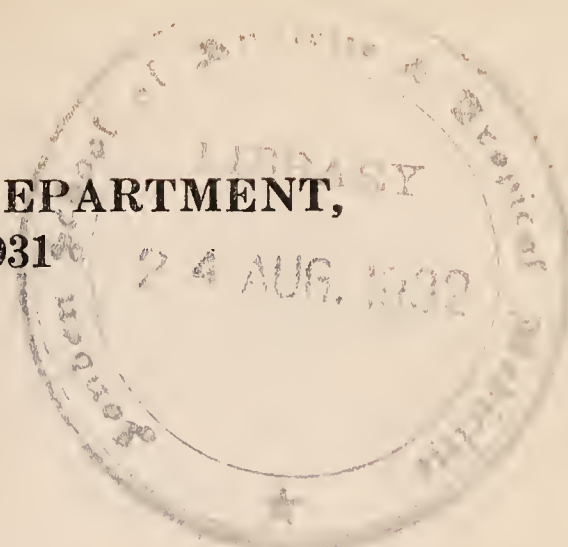
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**1932**



ANNUAL REPORT ON THE MEDICAL DEPARTMENT,  
BRUNEI, FOR THE YEAR 1931



I.—ADMINISTRATION

(a) STAFF

(1) *Medical Officer.*—

Dr. J. W. WINCHESTER, M.D. (St. Andrews) was in charge till November 4th, 1931, when he proceeded on furlough. He was relieved by Dr. E. W. MARTINDELL, M.B., B.S. (London).

(2) *Dressers.*—

(a) MOHAMED YUSOFF BIN ABDUL RAJID was Dresser in charge of the Government Hospital during the year.

(b) ABDUL KHAN BIN NOORSAH carried on the duties of Travelling Dresser.

(c) MOHAMED HUSSAIN BIN TARAM was promoted to be the junior Dresser—Grade III for the Government Hospital, Brunei.

(3) *Sanitary Board Inspectors.*—

(a) SHIM FOOK MUI was transferred to Kuala Belait and is the Sanitary Board Inspector there.

(b) The post in Brunei was given to PENGIRAN KAMIS who is now the Sanitary Inspector of Brunei.

The Medical Officer is also Medical Officer Health, acts as Registrar of Births and Deaths, is an Assistant Controller of Labour and a Magistrate Class II for the State.

(b) ORDINANCE AFFECTING PUBLIC HEALTH

There were no enactments passed in 1931. One, known as the Quarantine and Prevention of Diseases Enactment is nearly completed and will be passed in 1932.

(c) FINANCIAL

Expenditure and Revenue for 1931 were as follows:—

	\$	c.
Expenditure .. .. .	18,434	07
Revenue .. .. .	726	15
Total Revenue of the State .. .. .	342,010	96
Total Expenditure of the State .. .. .	322,791	41



## II.—PUBLIC HEALTH

Apart from Chicken-pox, which is endemic, no form of epidemic disease occurred during the year.

The following are the monthly mortality figures for the past three years :—

<i>Months</i>		<i>1929</i>	<i>1930</i>	<i>1931</i>
January .. ..	..	65	91	101
February .. ..	..	43	61	70
March .. ..	..	64	57	82
April .. ..	..	47	47	73
May .. ..	..	61	75	80
June .. ..	..	65	103	90
July .. ..	..	77	78	112
August .. ..	..	80	74	59
September .. ..	..	82	90	53
October .. ..	..	65	72	56
November .. ..	..	78	81	71
December .. ..	..	72	93	100
Total ..		799	922	947

This increase in the deaths is only apparent, the compulsory registration and means of enforcing it being the probable explanation. The following are the more important causes of death with their numbers for the year 1931.

### (a) GENERAL DISEASES

(1) *Beri-beri*.—Accounted for 25 as against 17 for 1930.

(2) *Convulsions*.—One hundred and twenty-two are recorded as against 165 for 1930.

This is again the chief cause of Infantile deaths.

But the accuracy of the registration is very far from reliable, as it must be remembered that most of the certification of deaths is done by non-medical men.

### (b) INFECTIOUS DISEASES

(1) *Pneumonia*.—Six deaths recorded from this cause against 15 in 1930.

(2) *Tuberculosis*.—Forty-five deaths recorded against 61 in 1930.

Here again data are so unreliable as to be uncertain of the figures given.

The number given has been arrived at after a due amount of discretion in the reading of the certifications.

There is, no doubt, that there is a considerable amount of Tuberculosis in the State and in Brunei Town. In Brunei Town, this is a matter for the Sanitary Board, and it is hoped that the tendency for overcrowding will be stopped in 1932.

(3) *Dysenteries and Diarrhoea*.—One hundred and sixty-four deaths recorded as against 104 last year.

This group which must contain at least four major causes is placed under one heading. Most of the cases are from the outstations and were never seen in Brunei Hospital.

(4) *Malaria*.—This includes all deaths certified as from fever and the number is 87 against 102 in 1930.

*Vaccinations*.—There is again an increase in the total numbers and it is hoped that the progress will be maintained.

The following are the figures for the past three years:—

			1929	1930	1931
			—	—	—
Perfect	..	..	342	413	680
Modified	..	..	20	180	110
Failed	..	..	5	61	78
Not seen	..	..	55	56	121
			—	—	—
	Total	..	422	710	989
			—	—	—

#### VENEREAL DISEASE

There appears to have been no increase in 1931 and the number of infections seen is very small.

Gonorrhœa appears to be more prevalent.

#### YAWS

A considerable number of cases of this disease have been treated. It is prevalent especially among the various Ulu tribes. It is gratifying that these people are taking to Western medicines. Unfortunately we have no other remedy so speedy and specific as the Arsenical preparation for Yaws.

#### LEPROSY

One case was admitted from Kuala Belait. He is still here and is improving on treatment with Oil of Wightiana.

#### HELMINTHIC DISEASE

The only two of note are Ascariasis and Ankylostomiasis of these the former is far more prominent. It is the cause of most of the intestinal complaints of children.

It is doubtful if improvement will take place before the Malays are instructed in matters of Hygiene and sanitation. Their present system is deplorable but one that has the strength of long usage.



Ankylostomiasis is also present but is not a serious problem and heavy infections are not seen. This is probably due to the fact that most latrines are over some waterway and there is little chance of infection. The amount can be seen in Appendix IV which is the result of Mass treatment of school children.

### VITAL STATISTICS

There was a census early in 1931 and the figures for this year are quite reliable.

	1929	1930	1931
	—	—	—
(a) Estimated population ..	28,329	31,170	30,162

Number of births registered in 1931 was 1,147 (males 575, females 572) as against 1,349 (males 670, females 679) in 1930.

This represents a crude birth-rate per mille of 38.02 as against 43.28 in 1930.

(b) Of the 1,147 births 575 were males and 572 females. Thus for every 100 females born there were 100.53 males.

(c) There were 23 still births registered as against 30 in 1930. The percentage to live-births is thus 2.00 as against 2.22 in 1930.

(d) Deaths from all causes totalled 947 giving a crude death-rate per mille of 31.39 as against 29.58 in 1930.

(e) Three hundred and sixty-four children under one year of age died. One thousand one hundred and forty-seven births were registered. This gives an Infant mortality rate of 317.35 per mille as against 246.85 in 1930.

Table showing the sick, invaliding and deaths of Officials during the year:—

#### (a) EUROPEAN

Number on establishment ..	..	..	4
Average number resident ..	..	..	4
Number on sick list ..	..	..	2
Number of sick days ..	..	..	12
Number invalided ..	..	..	Nil
Total deaths ..	..	..	Nil

#### (b) NON-EUROPEAN

Number on establishment ..	..	..	217
Number on sick list ..	..	..	29
Number of sick days ..	..	..	299
Number invalided ..	..	..	Nil
Total deaths ..	..	..	2
Average daily number on sick list ..	..	..	.82
Average number of sick days for each patient ..	..	..	10.3
Percentage of deaths to average number resident ..	..	..	.92
Percentage of sick to average number resident ..	..	..	12.9

### III.—HYGIENE AND SANITATION

The previous three Sanitary Board areas, *viz.*, Brunei Town, Tutong and Kuala Belait remain.

In Kuala Belait which is developing rapidly in addition to the British Malayan Petroleum Company's Inspector, there is now a Government Sanitary Inspector.

#### PREVENTIVE MEASURES

Malaria is not a serious problem in Brunei Town. Reference to Appendix IV will show that in Brunei the spleen-rate is less than 4 per cent.

In Kuala Belait this is 0 per cent according to the figures. It may be mentioned that this is the only place where Anti-malarial measures are taken.

The outlying villages, especially along the Tutong road give a bigger spleen-rate.

A survey conducted late in the year gave a spleen-rate of over 85 per cent and it will be seen that at Sengkurong (Appendix IV) the spleen-rate amongst the school children is 40 per cent.

This is the area under cultivation with padi. The population is sparse and scattered and at present there are no funds available for the work.

It is interesting also that of the types of Malarial infection as judged by the laboratory examinations, Malignant Tertian is least frequent and Quartan, is common, while Benign Tertian is the prevalent form. At Kuala Belait the same precautionary measures of a routine blood examination of all new labour, with exclusion of those infected are still in vogue.

#### (2) GENERAL MEASURES OF SANITATION

(a) *Sewage disposal.*—The bucket system is in vogue for Brunei Town and works satisfactorily.

Some of the Government Quarters and Estate bungalows have a water carriage system, proximity to a waterway and height of site being the necessary factors.

In Kuala Belait a bucket system has been started and is successful.

In Tutong, pit and river latrines are in use.

In all Malay kampongs the latrine is over some waterway.

(b) *Disposal of Rubbish.*—An incinerator of approved type is installed and all houses are supplied with rubbish bins. This applies to Brunei Town and Kuala Belait.

(c) The Sanitary Board employs four coolies who do the necessary sweeping of streets and attend to the cleanliness of market and the disposal of rubbish.



### (3) WATER SUPPLY

Brunei Town is supplied by pipe from a reservoir tank in the neighbouring hills. The source is a mountain stream with little chance of contamination.

There is an accessory supply for some of the Government Quarters of a similar nature but here a sand filter has been incorporated.

In other areas and especially on Estates, shallow wells are in use.

### (4) SCHOOL HYGIENE

The Travelling Dresser visits all schools in the State and gives any necessary treatment and gives simple lectures on personal hygiene, malarial prevention and the avoidance of helminthic infection.

All school children were again examined as last year.

The figures for the spleen-rate and helminthic infections are set forth in Appendix IV.

### (5) LABOUR CONDITIONS

There are five European Managed Rubber Estates in the State. Each was inspected once during the year. From 1932 onwards there are to be bi-annual inspections.

Each Estate has a resident dresser and a small hospital but all cases other than those of a minor nature are treated in the Government Hospital.

During the year most of the imported Indian labour were sent back and all the labour is now in the hands of Malays and Chinese.

Hygienic and Sanitary conditions are far from good on these Estates but nothing can be done in these times as they are all struggling to exist.

In addition at Kuala Belait, a large labour force is employed by the British Malayan Petroleum Company. Here, there is a lot of Indian labour. This force is in charge of a Medical Officer of the Company, resident at Miri who visits at regular intervals. In addition there is a resident dresser and a hospital. The following table shows the common causes of illness amongst the labour force:—

PLACE OF EMPLOYMENT	Population	Total treated	Dysenteries & Diarrhoea	Malaria	Beri Beri	Helminthic Infection	Deaths	Births	Infantile Mortality
Brunei United Plantations, Ltd. ... ..	220	353	19	59	...	86	1	8	4
Gadong ... ..	222	601	12	128	32	11	1	2	1
Batu Apoi ... ..	156	74	1	25	...	3	...	...	...
Labu ... ..	341	554	11	130	16	14	8	13	2
Biang ... ..	140	61	4	21	1	4	1	...	1
British Malayan Petroleum Co. ... ..	886	5,018	9	199	16	3	2	3	3



## (6) HOUSING AND TOWN PLANNING

Kuala Belait is the place that is developing rapidly. Here the Sanitary Board control the erection of new buildings. A definite town development plan has been fixed and plans for all new buildings of an approved nature have to be submitted before erection.

The same laws apply to Brunei but no great development has occurred in the year.

It cannot be too strongly stressed how necessary these arrangements are, as already a tendency to overcrowding has appeared in Brunei Town with the consequent increase in the Tuberculosis rate.

## (7) FOOD IN RELATION TO HEALTH AND DISEASE

Inspection and control is carried out by the Sanitary Board Inspector. The vegetable market is in a good position. The Pork and Buffalo slaughter houses are over waterways and certain improvements are hoped for in these.

In Kuala Belait, the Sanitary Board are making efforts in this direction also, as part of the Town planning scheme.

## IV.—MATERNITY AND CHILD WELFARE

The infant mortality rate is still extremely high. Three hundred and sixty-four Infants under one year of age died.

As the number born in 1931 was 1,147 and the total deaths 947, the infant mortality rate is 31.73 per cent and the percentage of infant deaths to total deaths is 38.4 per cent.

Both these figures show an increase over those of 1930. The seriousness of this problem has been stressed previously but so far nothing has been done.

The difficulty is to obtain a suitable midwife and child welfare Nurse, a Malay for preference, and to overcome the distrust of and conservatism against any innovation.

## V.—HOSPITALS AND DISPENSARIES

Each Rubber Estate has its own small hospital in charge of a dresser and the British Malayan Petroleum Company have a small hospital at Kuala Belait.

There is only one Government hospital in the State, situated in Brunei Town. This contains one ward of 18 beds, an Operating theatre a Dispensary and a Laboratory.

There are, in addition, three separate rooms which are used for infectious cases or mental cases under observation.

The equipment is meagre, the laboratory requires several additions as there exists no facility for Bacteriological work.

The surgical equipment is good for the size of the Hospital. It is hoped that in time Brunei will possess a really well equipped hospital, as it should.

Out-door patients are treated free of charge daily from 9 A.M. to 1 P.M. In addition there is a Travelling Dispensary in charge of a dresser who visits outlying station regularly. At present there are five main centres. Here again it is found that the wild up-country people take to Western medicine more readily than the Brunei Malays. Particulars of this branch of the Medical Department will be found in Appendix VI.

The total number of patients shows an increase of 3,913.

The following is a table showing for the In-patients at the Government Hospital Brunei:—

Remained from 1930	Admitted during 1931	Total treated	Discharged	Absconded	Died	Remained at the end of 1931	Percentage of deaths to total treated	Average monthly No. of patients	Number of beds
8	189	197	179	1	10	7	5.08	15	18

## VI.—POLICE AND PRISON

The prison was inspected quarterly by the Medical Officer. The health of the prisoners has been good. The buildings are clean, well ventilated and in a satisfactory state of repair.

The following are statistics for the Police force and prisoners:—

### (1) *Police.*—

Total number resident .. .. .	67
Total number treated in Hospital or Dispensary	45
Total number of sick days .. .. .	665
Percentage of sick to total number resident ..	68.16
Average daily number on sick list .. .. .	1.8
Average number of days for each patient ..	14.78
Total number invalided .. .. .	2
Total deaths .. .. .	Nil

### (2) *Prisons.*—

Total Prison population .. .. .	26
Average daily number in Prison .. .. .	7.12
Total treated in Dispensary and Hospital ..	18
Percentage of sick to total population ..	65.38
Total deaths .. .. .	Nil

## VII.—METEOROLOGICAL

Records of Temperature and Rainfall are kept by the Medical Department. The mean maximum temperature for the year was 86.66° F. and the mean minimum 76.64° F. The rainfall for the year was 141.17 inches. February was again the driest and November the wettest month.

The wettest months are from September to January inclusive during the North-east monsoon.

A table of monthly records is given in Appendix VIII.



## APPENDIX I

## TOTAL STAFF OF THE MEDICAL DEPARTMENT DURING 1931

- (1) Medical Officer.
- (2) Hospital Dresser Grade II.
- (3) Travelling Dresser Grade II.
- (4) Dresser Grade III.
- (5) Sanitary Board Inspector.
- (6) Overseer and Market Inspector.
- (7) Apprentice clerk.
- (8) Dispensary Attendant.
- (9) Hospital Attendant.
- (10) Cook.
- (11) Gardener.
- (12) Conservancy coolie.
- (13) Do.
- (14) Do.
- (15) Do.

## APPENDIX II

## REVENUE 1931

		\$	c.
Sale of medicines and hospital charges ..	..	726	15

## EXPENDITURE 1931

Personal Emoluments ..	..	..	12,817	66
Allowances, Travelling and Personal ..	..	..	216	15
„ Motor Car ..	..	..	457	34
„ Motor Cycle ..	..	..	180	00
„ Bicycle ..	..	..	120	00
Medicines and Equipment ..	..	..	1,797	82
Patients' Diets ..	..	..	1,189	92
Clothing and Laundry ..	..	..	204	97
Miscellaneous ..	..	..	183	54
Maintenance of Lunatics ..	..	..	400	00
Conservancy ..	..	..	866	67
Total ..				18,434 07

## APPENDIX III

## VITAL STATISTICS

TABLE I

*Estimated population, with birth and death rates for 1931*

Population		Births		Deaths		Birth-rate per mille		Death-rate per mille	
1930	1931	1930	1931	1930	1931	1930	1931	1930	1931
31,170	30,162	1,349	1,147	922	947	43.28	38.03	29.58	31.40

TABLE II

*Births registered each month according to sex*

Jan.		Feb.		Mar.		April		May		June		July		Aug.		Sep.		Oct.		Nov.		Dec.		Total	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
55	47	49	51	46	58	71	56	51	59	40	50	40	38	49	40	40	41	42	46	52	46	40	40	575	572

TABLE III

*Births registered according to Nationalities*

Brunei Malays	Chinese	Dayaks	Dusuns	Eurasians	Europeans	Indians	Javanese	Kedayans	Muruts	Tutongs	Others	Total
588	111	17	95	1	...	6	9	200	12	104	4	1,147

TABLE IV

*Deaths registered each month according to sex*

Jan.		Feb.		Mar.		April		May		June		July		Aug.		Sep.		Oct.		Nov.		Dec.		Total	
M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
50	51	37	33	39	43	35	38	40	40	53	37	62	50	28	31	28	25	32	24	34	37	42	58	480	467



TABLE V

*Deaths registered according to Nationalities*

Brunei Malays	Chinese	Dayaks	Dusuns	Eurasians	Europeans	Indians	Javanese	Kedayans	Muruts	Tutongs	Others	Total
519	55	3	41	...	...	...	3	230	15	79	1	947

TABLE VI

*Deaths registered under different groups of ages*

Under 3 months ..	..	..	..	198
3 months and under 1 year ..	..	..	..	165
1 year to 5 years	..	..	..	108
5 years to 10 years	..	..	..	48
10        „        20        „	..	..	..	48
20        „        25        „	..	..	..	26
25        „        35        „	..	..	..	66
35        „        45        „	..	..	..	84
45        „        55        „	..	..	..	60
55        „        75        „	..	..	..	99
Over 75 years	..	..	..	40
Unknown	..	..	..	5
Total ..				947

TABLE VII

*Infantile mortality registered during each month according to sex, with mortality rate per thousand births*

Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total	Total Births	Infantile Mortality rate
M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.	M. F.		
30 26	23 16	21 16	18 11	20 12	14 12	15 13	6 8	15 13	8 4	16 10	17 20	203 161	1,147	317.35

TABLE VIII

*Deaths registered as regards certification*

Died in Hospitals .. .. .	10
Certified by Medical Practitioners .. ..	39
Certified by registering officers after death ..	852
Uncertified .. .. .	46
Total ..	947

## APPENDIX IV

*Table showing the results of Spleen and stool examination of School Children*

NAME OF SCHOOLS	No. of pupils registered	No. of pupils examined	Enlarged spleen	Percentage with enlarged spleen	STOOL EXAMINATION				No. treated with anthelmintics
					Ankylostoma alone	Ascaris alone	Double infection	Negative	
Brunei ...	309	282	9	3.18	7	74	104	79	183
Sengkurong ...	30	30	12	40.00	2	17	8	3	28
Tutong ...	65	41	3	7.32	...	22	10	5	37
Lubok Pulau ...	24	18	1	5.56	1	12	1	4	14
Tanjong Maya ...	41	40	1	2.50	1	22	7	10	30
Tumpuan Ugas ...	35	34	9	2.65	...	22	10	2	32
Kuala Belait ...	101	85	...	...	...	49	10	13	63
Labu ...	31	27	1	3.70	...	18	9	...	27
Bangar ...	33	22	2	9.09	1	9	10	2	20
Total ...	669	579	38	6.56	12	245	169	118	434



## APPENDIX V

*Return of sick of the Government Hospital, Brunei,  
for the year 1931*

Class	Specific Disease	Remained	Admitted	Total	Discharged	Transferred	Absconded	Died	Remaining	Remarks
Infectious Disease ...	Malaria B. T. ...	...	2	2	2	...	...	...	...	
„ ...	Malaria S. T. ...	...	2	2	2	...	...	...	...	
„ ...	Malaria Quartan ...	...	2	2	1	...	...	1	...	
„ ...	Malaria Unclassified ...	...	17	17	17	...	...	...	...	
„ ...	Malaria Cachexia ...	...	13	13	13	...	...	...	...	
„ ...	Influenza ...	...	3	3	3	...	...	...	...	
„ ...	Chicken Pox ...	...	3	3	3	...	...	...	...	
„ ...	Leprosy ...	...	1	1	...	...	...	...	1	
„ ...	Yaws ...	...	1	1	1	...	...	...	...	
General Disease ...	Beri Beri ...	1	13	14	13	...	...	1	...	
„ ...	Diabetes ...	...	1	1	1	...	...	...	...	
„ ...	Parotitis ...	...	1	1	1	...	...	...	...	
„ ...	Inguinal Hernia ...	...	1	1	1	...	...	...	...	
Ear, Eye, nose and throat ...	Otitis ...	...	1	1	1	...	...	...	...	
„ ...	Conjunctivitis ...	1	3	4	3	...	...	...	1	
„ ...	Corneal Ulcer ...	...	1	1	1	...	...	...	...	
„ ...	Chronic Tonsillitis ...	...	1	1	1	...	...	...	...	
Dental Disease ...	Pyorrhoeal abscess ...	...	1	1	1	...	...	...	...	
Venereal Disease ...	Gonorrhoea ...	1	...	1	1	...	...	...	...	
„ ...	Gonorrhoeal Conjunctivitis ...	1	1	1	1	...	...	...	...	
„ ...	Gonorrhoeal Rheumatism ...	...	3	3	3	...	...	...	...	
„ ...	Gonorrhoeal Arthritis ...	...	1	1	1	...	...	...	...	
„ ...	Gonorrhoeal Orchitis ...	...	1	1	1	...	...	...	...	
Helminthic Infection ...	Ankylostomiasis ...	...	2	2	2	...	...	...	...	
„ ...	Ascariasis ...	...	3	3	3	...	...	...	...	
Nervous Disease ...	Insanity ...	...	1	1	1	...	...	...	...	
„ ...	Vertigo ...	...	1	1	1	...	...	...	...	
Respiratory System ...	Asthma ...	...	1	1	1	...	...	...	...	
„ ...	Chronic Bronchitis ...	...	1	1	1	...	...	...	...	
„ ...	Pleurisy ...	1	1	2	2	...	...	...	...	
„ ...	Pneumonia ...	...	2	2	2	...	...	...	...	
„ ...	Pulmonary Tuberculosis ...	...	7	7	6	...	...	1	...	
Circulatory System ...	Cardiac Failure ...	...	2	2	1	...	...	1	...	
Digestive System ...	Colitis ...	...	1	1	1	...	...	...	...	
„ ...	Cholecystitis ...	1	...	1	1	...	...	...	...	
„ ...	Diarrhoea ...	...	2	2	2	...	...	...	...	
„ ...	Dysentery Amoebic ...	...	3	3	1	...	...	2	...	
„ ...	Dysentery Bacillary ...	...	9	9	7	...	...	2	...	
„ ...	Gastritis ...	...	3	3	3	...	...	...	...	
„ ...	Gingivitis ...	...	1	1	1	...	...	...	...	
<i>Carried forward</i> ...		6	113	118	108	...	...	8	2	

## APPENDIX V—Continued

*Return of sick of the Government Hospital, Brunei,  
for the year 1931—Continued*

Class	Specific Disease	Remained	Admitted	Total	Discharged	Transferred	Absconded	Died	Remaining	Remarks
	<i>Brought forward ...</i>	6	113	118	108	...	...	8	2	
Genito-urinary System	Nephritis ...	...	6	6	5	...	...	1	...	
"	Recto-vaginal Fistula ...	1	...	1	1	...	...	...	...	
"	Cystitis ...	...	1	1	1	...	...	...	...	
"	Vesical Calculus ...	...	1	1	...	...	...	1	...	
Skin & Cellular Tissue	Abscess ...	...	12	12	11	...	...	...	1	
"	Bubo ...	...	1	1	1	...	...	...	...	
"	Ulcer ...	1	7	8	8	...	...	...	...	
"	Axillary abscess ...	...	1	1	1	...	...	...	...	
"	Ischio-rectal abscess ...	...	1	1	1	...	...	...	...	
"	Boil ...	...	1	1	1	...	...	...	...	
"	Haematoma Scalp ...	...	1	1	1	...	...	...	...	
Bones and Joints	Synovitis ...	...	2	2	2	...	...	...	...	
"	Arthritis ...	...	1	1	1	...	...	...	...	
"	Arthritis hip joint ...	...	1	1	1	...	...	...	...	
"	Tuberculosis hip joint ...	...	1	1	1	...	...	...	...	
External Causes	Cut throat ...	...	1	1	1	...	...	...	...	
"	Compound Fracture ...	1	2	3	2	...	...	...	1	
"	Simple Fracture ...	...	2	2	2	...	...	...	...	
"	Wound ...	...	16	16	15	...	...	...	1	
"	Contusion ...	...	2	2	2	...	...	...	...	
"	Concussion ...	...	1	1	1	...	...	...	...	
"	Amputation fourth finger ...	...	1	1	1	...	...	...	...	
"	Sprain ...	...	4	4	4	...	...	...	...	
"	Foreign body in muscle ...	...	1	1	1	...	...	...	...	
"	Self amputation tongue ...	...	1	1	...	...	...	...	1	
"	Circumcision ...	...	1	1	1	...	...	...	...	
Undefined Disease	Pyrexia U. O. ...	...	1	1	1	...	...	...	...	
"	Debility ...	...	1	1	1	...	...	...	...	
"	Observation ...	...	5	5	3	...	1	...	1	
	Total ...	9	189	197	179	...	1	10	7	



## APPENDIX VI

## A

*Return of sick of the Government Out-door Dispensary  
for the year 1931*

Class		Specific Disease	Number Attending during the year
Infectious Disease	...	Malaria Fever (Unclassified) ...	338
"	...	Malaria Fever Benign Tertian ...	22
"	...	Malaria Fever Sub-Tertian ...	6
"	...	Malaria Fever Quartan ...	2
"	...	Malarial Cachexia ...	157
"	...	Influenza ...	185
"	...	Chicken Pox ...	5
"	...	Yaws ...	73
General Disease	...	Rheumatism ...	144
"	...	Lumbago ...	98
"	...	Myalgia ...	82
"	...	Beri Beri ...	139
"	...	Anæmia ...	92
"	...	Hay Fever ...	3
"	...	Sea-sickness ...	3
"	...	Excision of gland ...	2
"	...	Sciatica ...	1
"	...	Varicose vein ...	1
"	...	Post-Influenzal debility ...	1
"	...	Hernia ...	1
"	...	Diabetes ...	2
Nervous System	...	Cephalgia ...	159
"	...	Neuralgia ...	15
"	...	Insomnia ...	11
"	...	Convulsions ...	3
"	...	Nervous debility ...	4
"	...	Vertigo ...	10
"	...	Disseminated Sclerosis ...	2
"	...	Epilepsy ...	1
"	...	Neurasthenia ...	2
"	...	Hysteria ...	1
"	...	Opium habit ...	3
Ear, Nose, Eye and Throat	...	Otorrhoea ...	28
"	...	Otitis ...	18
"	...	Blepharitis ...	3
"	...	Conjunctivitis ...	109
"	...	Cataract ...	5
"	...	Hordeolum ...	6
"	...	Sub-conjunctival Ecchymosis ...	1
"	...	Pterygium ...	20
"	...	Trachoma ...	5
"	...	Keratitis ...	1
"	...	Retinitis ...	1
"	...	Ulcer of cornea ...	1
"	...	Foreign body in eye ...	1
"	...	Rhinitis ...	25
"	...	Tonsillitis ...	29
"	...	Laryngitis ...	40
Dental System	...	Tooth Extraction ...	36
"	...	Tooth caries ...	101
"	...	Alveolar abscess ...	5
Carried forward ...			2,003

## APPENDIX VI—Continued

## A

Return of sick of the Government Out-door Dispensary  
for the year 1931—Continued

Class	Specific Disease	Number Attending during the year
	<i>Brought forward</i> ...	2,003
Respiratory System	Asthma ...	63
"	Bronchitis ...	186
"	Cough ...	197
"	Catarrh ...	14
"	Broncho-Pneumonia ...	1
"	Pneumonia ...	2
"	Haemoptysis ...	1
"	Pleurisy ...	2
"	Whooping cough ...	1
"	Pulmonary Tuberculosis ...	19
Circulatory System	Valvular disease of heart ...	4
"	Cardiac failure ...	1
"	Cardiac Debility ...	1
Digestive System	Dysentery Amœbic ...	8
"	Dysentery Bacillary ...	42
"	Carcinoma Colon ...	1
"	Diarrhœa ...	89
"	Gastritis ...	110
"	Dyspepsia ...	104
"	Constipation ...	365
"	Colitis ...	14
"	Stomatitis ...	36
"	Hæmorrhoids ...	9
"	Intestinal Colic ...	77
"	Enteritis ...	8
"	Infantile Diarrhœa ...	2
"	Cholecystitis ...	2
"	Duodenal ulcer ...	7
"	Parotitis ...	1
Helminthic Infection	Ascariasis ...	470
Genito-Urinary System	Cystitis ...	43
"	Nephritis ...	19
"	Renal Calculus ...	1
"	Renal Colic ...	2
"	Chronic cystitis ...	1
"	Dysuria ...	2
"	Enlarge Prostate ...	1
"	Circumcision ...	9
Disease of Women	Abortion ...	2
"	Amenorrhœa ...	1
"	Dysmenorrhœa ...	15
"	Chronic inflammation of uterus ...	2
"	Imperforate Hymen and stricture of urethra ...	1
"	Puerperium ...	35
Venereal Disease	Gonorrhœa ...	2
"	Gonorrheal Rheumatism ...	10
"	Tertiary syphilis ...	1
	<i>Carried forward</i> ...	3,987



## APPENDIX VI—Continued

## A

*Return of sick of the Government Out-door Dispensary  
for the year 1931—Continued*

Class	Specific Disease	Number Attending during the year
	<i>Brought forward</i> ...	3,987
Bones and Joints ...	Arthritis ...	11
" ...	Synovitis ...	4
" ...	Gumma tibia ...	1
" ...	Inflammation elbow joint ...	1
" ...	Tuberculosis hip joint ...	1
Skin & Cellular Tissue ...	Abscess ...	46
" ...	Alopecia ...	2
" ...	Adenitis ...	4
" ...	Axillary abscess ...	1
" ...	Boil ...	36
" ...	Ring worm ...	99
" ...	Ulcer ...	574
" ...	Tinea Imbricata ...	76
" ...	Impetigo ...	12
" ...	Scabies ...	31
" ...	Herpes Zoster ...	3
" ...	Eczema ...	117
" ...	Corn ...	8
" ...	Cyst ...	16
" ...	Carbuncle ...	6
" ...	Warts ...	2
" ...	Fibro-lipoma ...	1
" ...	Fibroma ...	1
" ...	Dermatitis ...	2
" ...	Prurigo ...	12
" ...	Cellulitis ...	4
" ...	Erysipelas ...	2
External Causes ...	Foreign body in muscle ...	2
" ...	Concussion ...	1
" ...	Haematoma scalp ...	2
" ...	Wound ...	330
" ...	Simple Fracture ...	9
" ...	Compound Fracture ...	2
" ...	Green stick fracture and dislocation of elbow ...	1
" ...	Strain ...	17
" ...	Contusion ...	69
" ...	Crushed finger ...	6
" ...	Sprain ...	245
" ...	Burn ...	21
" ...	Sting by bees ...	1
" ...	Fish sting ...	5
" ...	Prickly heat ...	30
" ...	Abrasion ...	29
" ...	Blister ...	3
" ...	Dog bite ...	1
" ...	Crocodile bite ...	1
Undefined Disease ...	Observation ...	1
" ...	Malingering ...	2
" ...	Debility ...	35
	Total ...	5,872

APPENDIX VI—*Continued*

## A

*Return of sick of the Government Out-door Dispensary  
for the year 1931—Continued*

TABLE

Number of Patients	..	..	..	5,872
Number of visits	..	..	..	12,424
Number of Indigent Patients		..	..	5,261
Number of Government Officers		..	..	800
Number of Paying Patients		..	..	292
Average number of visits per month	..		..	1,035
Number of Males	..	..	..	4,580
Number of Females	..	..	..	1,292

TABLE OF NATIONALITY

				<i>Males</i>	<i>Females</i>
				—	—
Brunei-Malays	..	..	..	3,503	975
Chinese	..	..	..	463	174
Dusuns	..	..	..	36	27
Dayaks	..	..	..	23	5
Eurasians	..	..	..	73	—
Europeans	..	..	..	69	31
Indians	..	..	..	100	3
Javanese	..	..	..	30	4
Kedayans	..	..	..	254	68
Muruts	..	..	..	8	5
Tutongs	..	..	..	2	—
Others	..	..	..	19	—
				—	—
				4,580	1,292
				—	—



## APPENDIX VI—Continued

## B

*Return of sick of the Government Out-door Travelling  
Dispensary for the year 1931*

Class		Specific Disease		Number Attending during the year
Infectious Disease	...	Malaria Fever (Unclassified)	...	363
"	...	Malaria Fever Benign Tertian	...	17
"	...	Malaria Fever Sub-Tertian	...	1
"	...	Malarial Cachexia	...	173
"	...	Influenza	...	165
"	...	Chicken Pox	...	5
"	...	Yaws	...	8
General Disease	...	Rheumatism	...	248
"	...	Lumbago	...	250
"	...	Myalgia	...	2
"	...	Beri Beri	...	98
"	...	Anæmia	...	25
Nervous System	...	Convulsions	...	2
"	...	Vertigo	...	4
"	...	Cephalgia	...	153
"	...	Neuralgia	...	51
"	"	Nervous Debility	...	1
"	"	Insomnia	...	1
"	"	Neuritis	...	1
Ear, Eye, Nose and Throat	...	Otorrhœa	...	3
"	...	Otitis	...	1
"	...	Conjunctivitis	...	119
"	...	Cataract	...	29
"	...	Keratitis	...	14
"	...	Trachoma	...	17
"	...	Pterygium	...	2
"	...	Hordeolum	...	3
"	...	Rhinitis	...	2
"	...	Tonsillitis	...	8
Dental System	...	Tooth caries	...	23
"	...	Tooth extraction	...	3
Respiratory System	...	Asthma	...	59
"	...	Bronchitis	...	245
"	...	Whooping Cough	...	38
"	...	Pleurisy	...	1
"	...	Pulmonary Tuberculosis	...	8
Digestive System	...	Stomatitis	...	9
"	...	Gastritis	...	173
"	...	Dyspepsia	...	78
"	...	Dysentery Bacillary	...	86
"	...	Constipation	...	178
"	...	Diarrhœa	...	69
"	...	Intestinal Colic	...	67
Helminthic Infection	...	Ascariasis	...	2,821
Carried forward				5,616

## APPENDIX VI—Continued

## B

Return of sick of the Government Out-door Travelling  
Dispensary for the year 1931—Continued

Class		Specific Disease				Number Attending during the year
		<i>Brought forward ...</i>				5,616
Genito Urinary System	...	Cystitis	...	...	...	22
"	...	Nephritis	...	...	...	12
Disease of Women	...	Abortion	...	...	...	5
"	...	Amenorrhoea	...	...	...	11
"	...	Dysmenorrhœa	...	...	...	14
"	...	Puerperium	...	...	...	14
"	...	Salpingitis	...	...	...	1
Venereal Disease	...	Tertiary Syphilis	...	...	...	2
Bones and Joints	...	Synovitis	...	...	...	8
"	...	Arthritis	...	...	...	3
Skin & Cellular Tissues	...	Abscess	...	...	...	47
"	...	Boil	...	...	...	15
"	...	Eczema	...	...	...	70
"	...	Tinea Imbricata	...	...	...	59
"	...	Ulcer	...	...	...	290
"	...	Scabies	...	...	...	161
"	...	Ring worms	...	...	...	265
"	...	Prurigo	...	...	...	18
External Causes	...	Sprain	...	...	...	73
"	...	Contusion	...	...	...	42
"	...	Simple Fracture	...	...	...	1
"	...	Burn	...	...	...	9
"	...	Wound	...	...	...	124
"	...	Dog bite	...	...	...	2
"	...	Crocodile bite	...	...	...	1
"	...	Fish Sting	...	...	...	2
"	...	Bees' sting	...	...	...	1
"	...	Thorn wound	...	...	...	1
Undefined Disease	...	Debility	...	...	...	71
		Total ...				6,959



APPENDIX VI—*Concluded*

## B.

*Return of sick of the Government Out-door Travelling  
Dispensary for the year 1931—Concluded*

TABLE

Number of Patients	..	..	..	6,959
Number of visits	..	..	..	7,608
Number of Indigent Patients	..	..	..	6,823
Number of Government Officers	..	..	..	136
Number of Paying Patients	..	..	..	Nil
Average number of visits per month	..	..	..	250
Number of Males	..	..	..	4,465
Number of Females	..	..	..	2,494

TABLE OF NATIONALITY

				<i>Males</i>	<i>Females</i>
				—	—
Brunei-Malays	..	..	..	2,334	1,206
Chinese	..	..	..	206	85
Dayaks	..	..	..	9	16
Dusuns	..	..	..	142	109
Eurasians	..	..	..	2	—
Javanese	..	..	..	16	7
Indians	..	..	..	7	—
Kedayans	..	..	..	1,224	816
Muruts	..	..	..	17	8
Tutongs	..	..	..	506	257
Others	..	..	..	2	—
				—	—
				4,465	2,494
				—	—

## APPENDIX VII

*Meteorological return for the year of 1931*  
*Thermometer mean (in shade)*

Month			TEMPERATURE		Rainfall
			Maximum	Minimum	
January	...	...	86.58 °F	76.39 °F	14.15 Inches
February	...	...	86.50 „	76.71 „	1.71 „
March	...	...	86.81 „	76.58 „	6.03 „
April	...	...	86.70 „	76.77 „	6.38 „
May	...	...	86.58 „	77.16 „	13.65 „
June	...	...	87.13 „	77.47 „	14.08 „
July	...	...	86.71 „	76.48 „	18.95 „
August	...	...	88.19 „	77.39 „	4.46 „
September	...	...	86.60 „	76.63 „	17.73 „
October	...	...	86.35 „	76.19 „	11.76 „
November	...	...	85.73 „	76.37 „	19.24 „
December	...	...	86.06 „	76.74 „	13.03 „
Total ...			1,039.94 °F	920.88 °F	141.17 Inches

Mean Temperature 86.66 °F

76.74 °F

## APPENDIX VIII

## LABORATORY RETURN 1931

(1) Total Blood-films examined for malarial parasites ..	364
Negative .. .. .	341
Subtertian parasites present .. ..	4
Benign Tertian parasites present .. ..	14
Quartan parasites present .. ..	5
(2) Total Stools examined microscopically .. ..	828
Negative .. .. .	210
Ankylostoma duodenalis present .. ..	28
Ascaris Lumbricoides present .. ..	287
T. Trichiura present .. ..	120
Ankylostoma duodenalis and Ascaris Lumbricoides present .. ..	20
Ascaris Lumbricoides and T. Trichiura present ..	98
Ankylostoma duodenalis and T. Trichiura present ..	13
Ascaris Lumbricoides, Ankylostoma duodenalis and T. Trichiura .. ..	6
Entamoeba histolytica present .. ..	7
Blood and pus cells present .. ..	27
Blood cells present .. ..	3
Pus cells present .. ..	9
(3) Other examinations .. ..	69
Sputum for Bacilli Tuberculosis .. ..	42
Positive .. .. .	7
Negative .. .. .	35
Urethral and eyes smears for Gonococci .. ..	6
Positive .. .. .	4
Negative .. .. .	2
Urine for pus and organisms .. ..	21



## APPENDIX IX

*Return of Operations performed during 1931*

Operations	Total cases	Result		Died
		Cured	Releived	
Incision of abscess ...	12	12	—	—
Amputation of finger ...	1	1	—	—
Incision of Boil ...	1	1	—	—
Incision of Bubo ...	1	1	—	—
Tonsillectomy ...	2	2	—	—
Incision of Cellulitis hand ...	1	1	—	—
Circumcision ...	1	1	—	—
Compound Fracture ...	3	—	3	—
Crocodile bite ...	1	1	—	—
Suture cut throat ...	1	1	—	—
Excision of gland ...	1	1	—	—
Cyst (various) ...	15	15	—	—
Removal of Foreign body muscle	2	2	—	—
Removal of Foreign body in eye	1	1	—	—
Excision of Fibroma ...	1	1	—	—
Fibro Lipoma ...	1	1	—	—
Injection Haemorrhoid ...	2	2	—	—
Radical cure of Inguinal Hernia	1	1	—	—
Incision Ischio-rectal abscess ...	1	1	—	—
Removal of Nasal Polypus ...	2	2	—	—
Incision of Parotitis (suppurative) ...	1	1	—	—
For Pterygium ...	2	2	—	—
Pyorrheal abscess ...	2	2	—	—
Cystotomy for stone ...	1	—	—	1
Suture of wounds ...	26	26	—	—
Total ...	83	79	3	1



# SKETCH MAP OF THE STATE OF BRUNEI

Scale 12 Miles to 1 Inch

Miles 12 6 0 12 24 Miles

## REFERENCE

Metalled Road	European Rubber Estates
Earth "	European Rubber Estates (area under Rubber)
Road Along Sand Beach	Native Holdings (Miscellaneous Cultivation)
State Boundary (assumed)	Oil Mining Lease (Brit. Mal. Pet. Co. Ltd.)
District Boundary	Oil Prospecting Licence (Brit. Mal. Pet. Co. Ltd.)
District Name	BELAIT
Residency	Ry.

